Anaplan Connector for MuleSoft Guide

Overview

The Anaplan Connector for Mulesoft allows you to create solutions that can extract, transform, and load (ETL) data from a source system into Anaplan. MuleSoft, Inc. provides an Eclipse-based graphical environment, Anypoint Studio, for designing and configuring integration solutions with Mulesoft's library of more than one hundred Connectors to other applications, such as Workday, Salesforce.com, and SAP.

The Anaplan Connector for Mulesoft can be used for import, export, and delete actions in an orchestration of services that Mulesoft calls a Flow. F or example, the Flow you build might:

- Import data into Anaplan from a database, Salesforce.com, or a CSV file
- Export a recently updated Module from Anaplan into a CSV file, or import into a target, such as a database or Salesforce.com
- Perform data transformations on a schedule
- Delete obsolete data
- Perform a model-to-model import

You configure the Anaplan Connector with credentials to connect to a data source and perform operations. With the Anaplan Connector for Mulesoft, you build Anypoint flows that work with:

- Anaplan Lists
- Anaplan Modules
- Anaplan User Access

Note: Anaplan Connect is a command-line tool for Import, Export, Delete, and Processes (combinations of Imports, Exports, and/or Deletes) that uses batch files and allows automated scheduling on the operating system scheduling tool. The Anaplan Connector is an alternative to Anaplan Connect, except that for Processes, the Anaplan Connector for Mulesoft is limited to model-to-model Import actions and Delete actions.

Mulesoft Prerequisites

- familiarity with the Mulesoft Anypoint platform.
- an installation of Mulesoft's Anypoint Studio, which is the development environment for building an integration solution with the Anaplan Connector for MuleSoft. Anypoint Studio is available for download at http://www.mulesoft.com/platform/mule-studio.

Anaplan Prerequisites for the Demos

We provide Mulesoft demo projects for import, export, and delete. These demo projects can be a starting point for your Mulesoft projects.

1. You know about the Anaplan actions – import, export, process, and delete – which are explained at https://community.anaplan.com/anapedia/around-the-platform/settings-tab/actions
2. You have verified that your Anaplan model already has the actions that your Mule Flow will automate.
   Note: The Anaplan model you are working with does not assume that the data is coming from a particular integration. For example, some Anaplan models have an internal integration with Salesforce.com and therefore will not work with the Mulesoft integration if Salesforce is used as a source.
3. You know the values for the Variables for Authentication and Configuration for the demo you want to use. Each demo contains a configuration file named mule-app.properties.

export demo mule-app.properties file

```
anaplan.username=
anaplan.password=
anaplan.certificatePath=
anaplan.apiUrl=https://api.anaplan.com
anaplan.workspaceId=
anaplan.modelId=
anaplan.exportId=
```

import demo mule-app.properties file

```
anaplan.username=
anaplan.password=
anaplan.certificatePath=
anaplan.apiUrl=https://api.anaplan.com
anaplan.workspaceId=
anaplan.modelId=
anaplan.importId=
file.readFromDir=
file.moveToDir=
```

Note: The Column Separator and Text Delimiter are set in Data Source definition. If you want to change them, log in to the Anaplan model graphical user interface, and navigate to **Actions** > **Manage Import Data Sources** > **Edit**.

delete demo mule-app.properties file

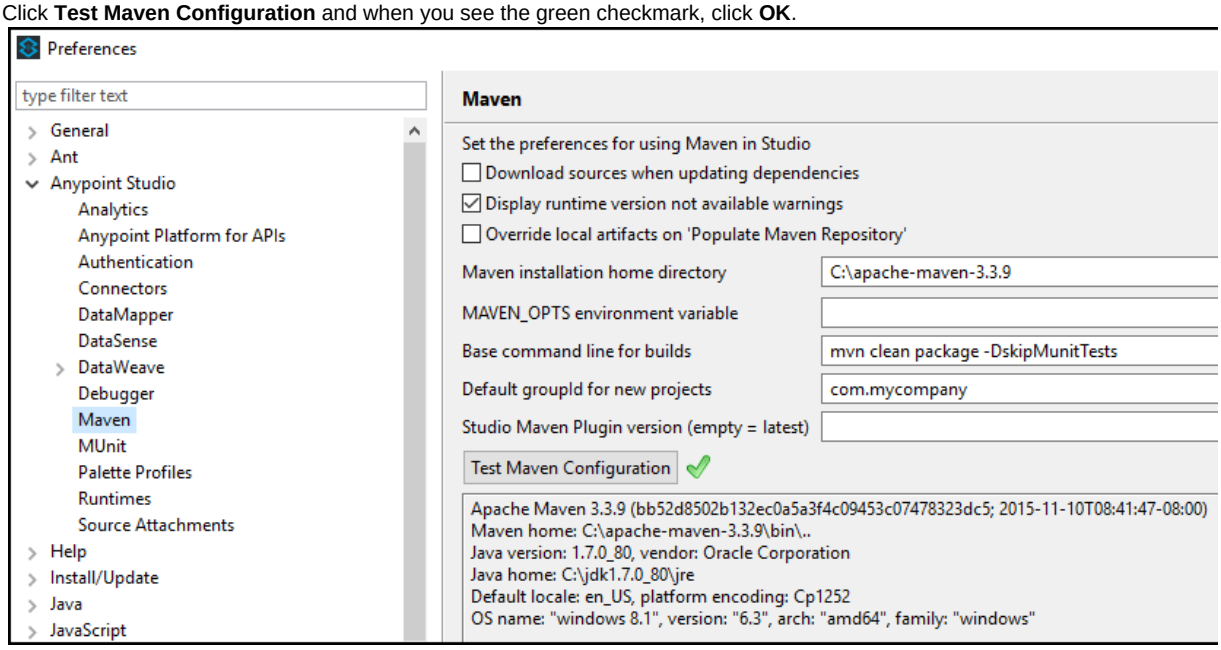
```
anaplan.username=
anaplan.password=
anaplan.certificatePath=
anaplan.apiUrl=https://api.anaplan.com
anaplan.workspaceId=
anaplan.modelId=
anaplan.deleteActionId=
```

Setting up the Environment

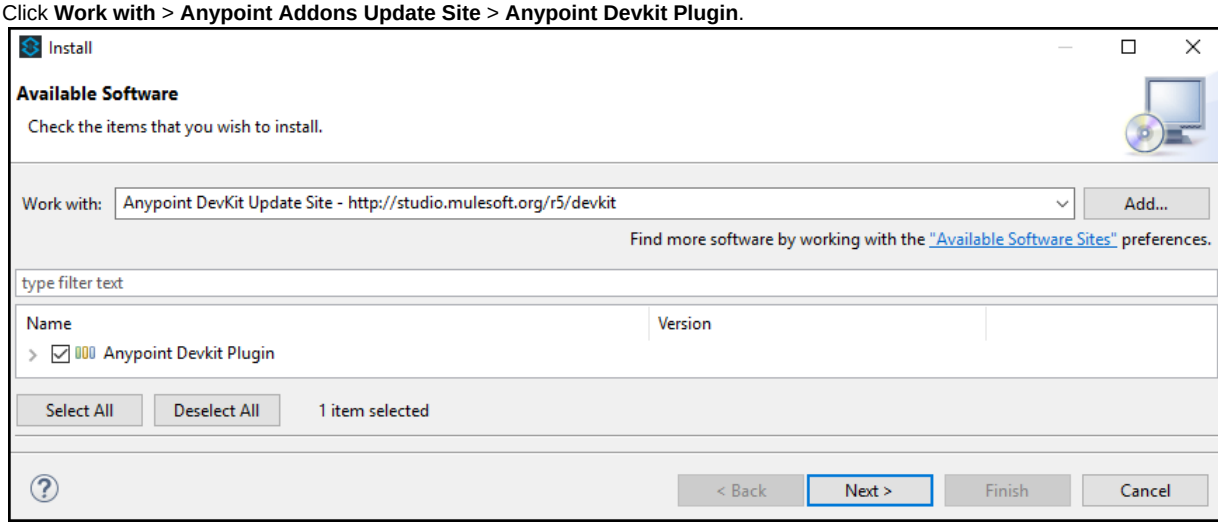
1. An installation of a Java Standard Development Kit (SDK).

Installing from ...	you need
Anypoint Studio option1 (Recommended)	Java 8 SDK or Java 7 SDK
GitHub option2	Java 7 SDK

2. Apache Maven
3. Download Anypoint Studio and install it.
4. Configure Maven (these details are for Version 6 of Anypoint Studio and might be different in another version):
    a. Click **Anypoint Studio** > **Window > Preferences** > **Anypoint Studio** > **Maven Settings**.
    b. Click **Browse** to locate the folder where you installed Maven.
    c. Click **Test Maven Configuration** and when you see the green checkmark, click **OK**.



5. Install the Anypoint DevKit Plugin:
    a. From the Anypoint Studio Help menu, click **Install New Software**.
    b. Click **Work with** > **Anypoint Addons Update Site** > **Anypoint Devkit Plugin**.



    c. Click **Next**, **Finish**, and restart Studio

Installing the Anaplan Connector

Install the **Anaplan connector**, which is documented at the Mulesoft Anypoint Exchange - https://www.mulesoft.com/exchange#!/anaplan-integration-connector and can be installed in either of two ways.

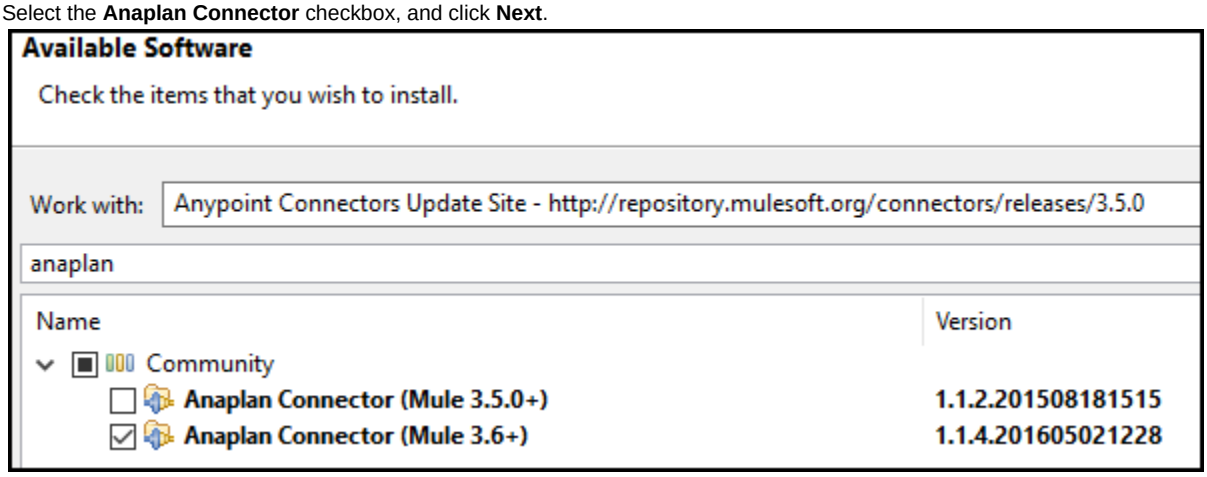
Note: Your version of Anypoint Studio might be slightly different than what is described below for Version 6.

Option 1: From Anypoint Studio (Recommended for most users)

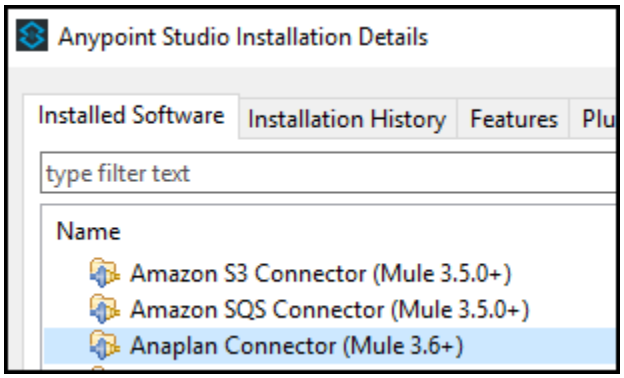
1. Help -> Install New Software.
2. Click the **Work with** drop-down arrow on the right, and click **Anypoint Connectors Update Site**.
3. In the Search field that says "type filter text", type anaplan.

Note that **Anaplan Connector** appears under **Community**.

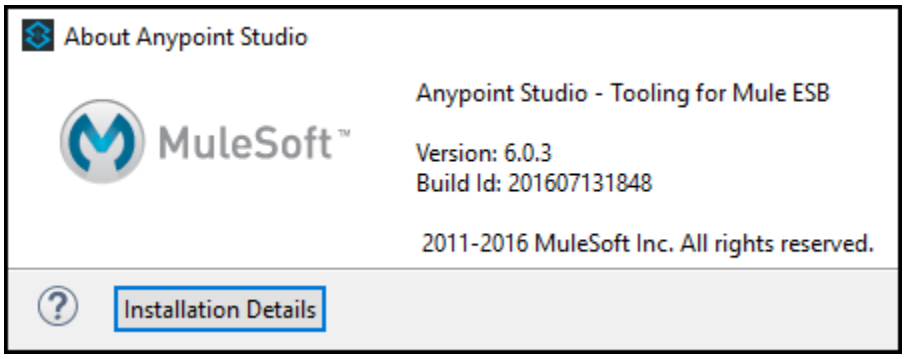
4. Select the **Anaplan Connector** checkbox, and click **Next**.



5. Follow the instructions as the wizard installs the connector. (You might need to restart Anypoint Studio.)
6. On the Help menu, click the **Installation Details**.
7. Verify that **Anaplan Connector (Mule 3.6+)** or **Anaplan Connector (Mule 3.5.0+)** appears as installed software.



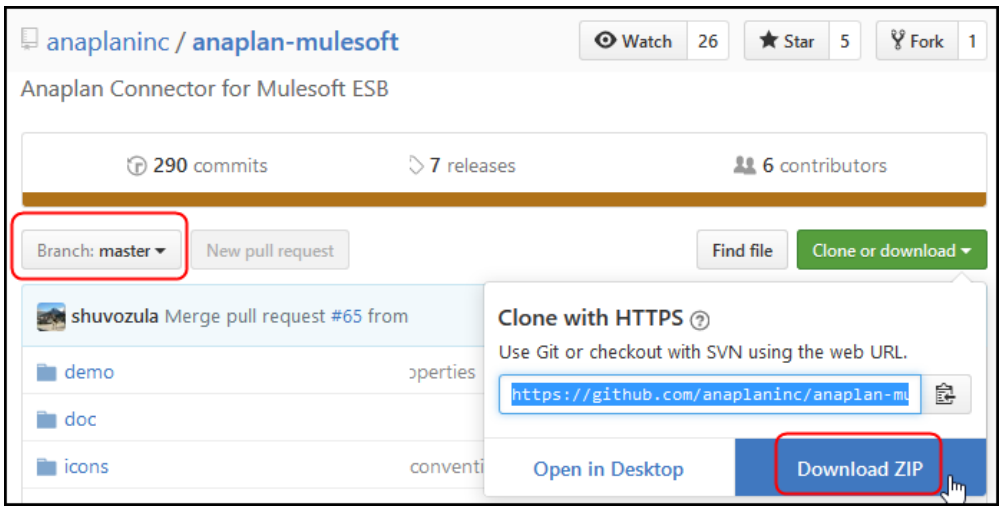
8. To verify the installation, on the Anypoint Studio **Help** menu, open the **About Anypoint Studio** dialog.



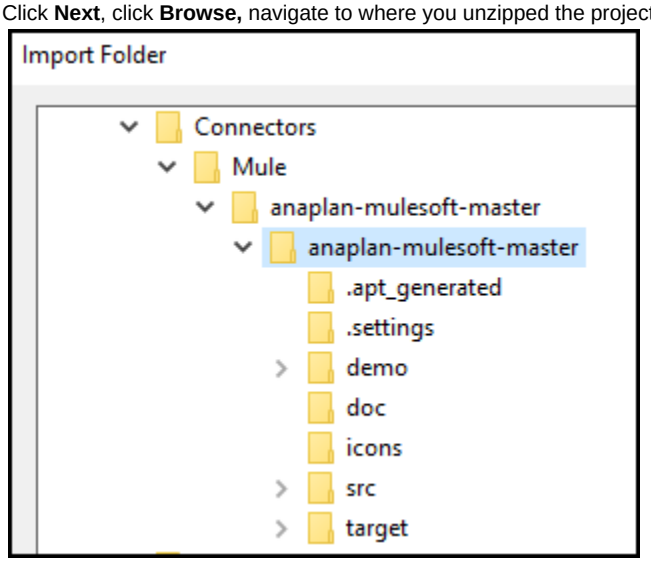
9. Click **Installation Details** to see a list that includes Anaplan Connector.

Option 2: (for experienced software developers only) From GitHub

1. Go to https://github.com/anaplaninc/anaplan-mulesoft and, from the **master** branch, get the downloadable zip.

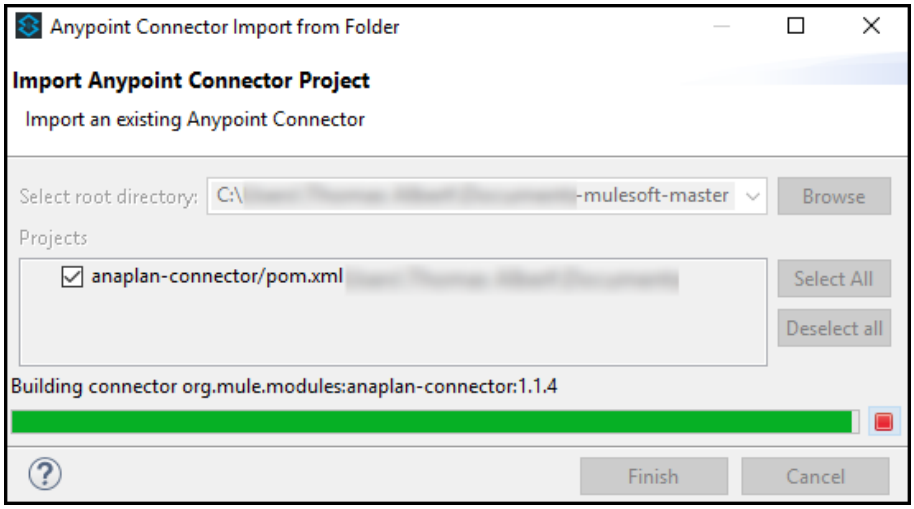


2. Save the *anaplan-mulesoft-master.zip* file.
3. Unzip the file, and note that it creates a subdirectory named **anaplan-mulesoft-master**, which contains a **demo** subdirectory.
4. In Anypoint Studio, click **File > Import**.
5. In the **Import** dialog, select **Anypoint Studio > Anypoint Connector Project from External Location**.
6. Click **Next**, click **Browse,** navigate to where you unzipped the project,



and click **OK**.

7. Note that **anaplan-connector/pom/xml** appears.



and Click **Finish**.

8. Follow the wizard to install the connector, ignore the warning about "unsigned content", and restart Anypoint Studio if prompted to do so.

Installing the Demo Flows (Optional)

There are three demo projects:

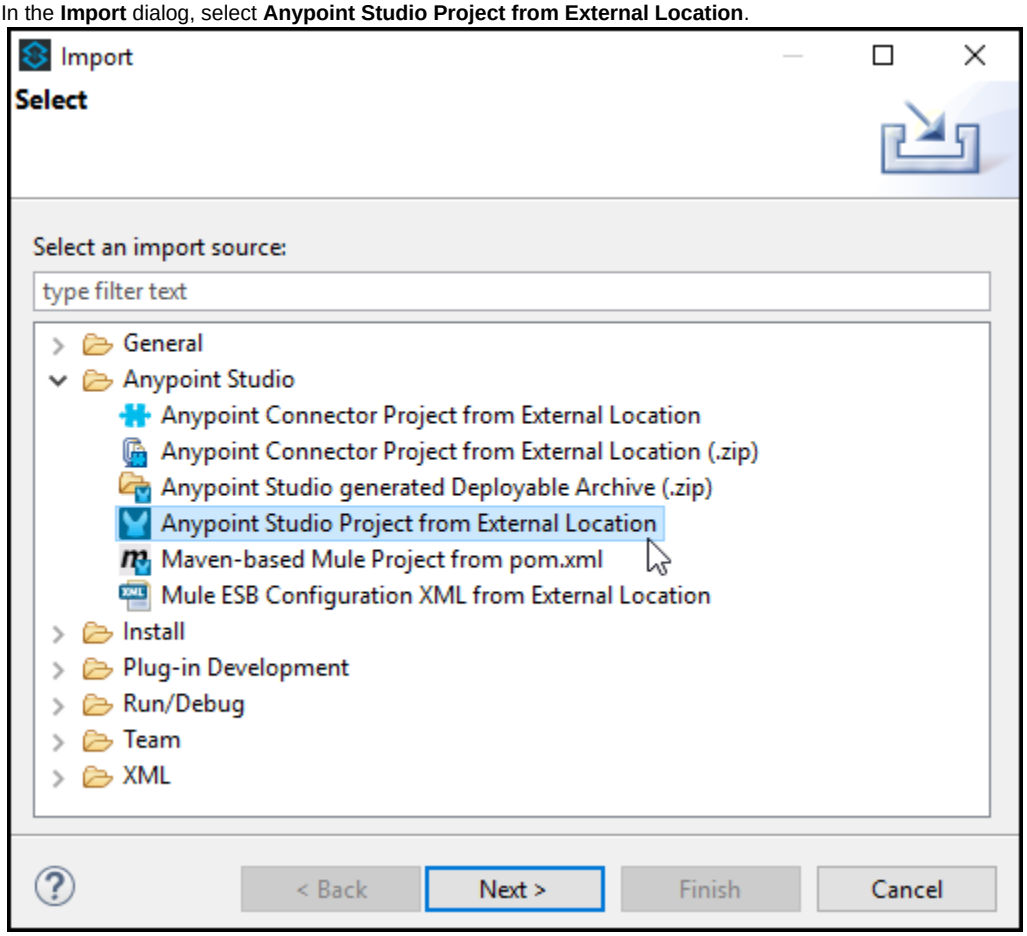
- anaplan-delete
- anaplan-export
- anaplan-import

If you want one or more of them:

1. (Recommended for most users) Download the **demo.zip** file from the link at https://community.anaplan.com/web/guest-staging/anapedia/integrations/third-party-data-integration/anaplan-connector-for-mulesoft

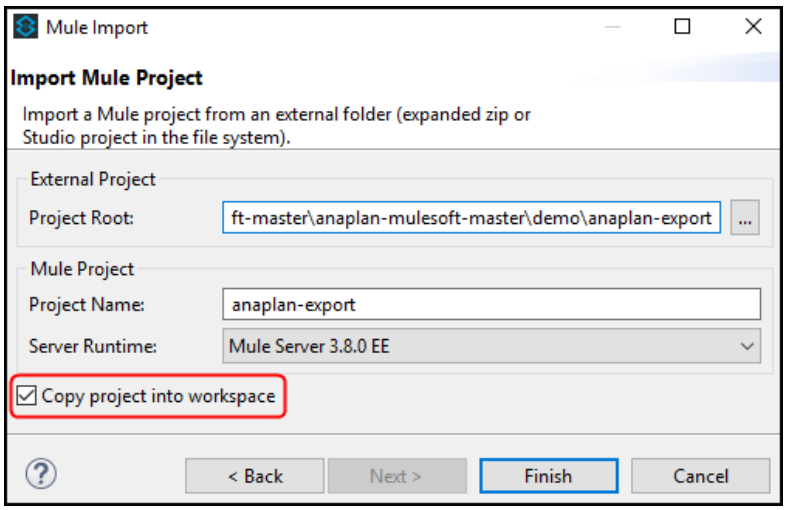
   Or, if you are a software developer experienced with GitHub, find them inside the "Demo" folder that is part of the zip described above in "Option 2: (for experienced software developers only) From GitHub"

2. In Anypoint Studio, on the **File** menu, click **Import**.
3. In the **Import** dialog, select **Anypoint Studio Project from External Location**.



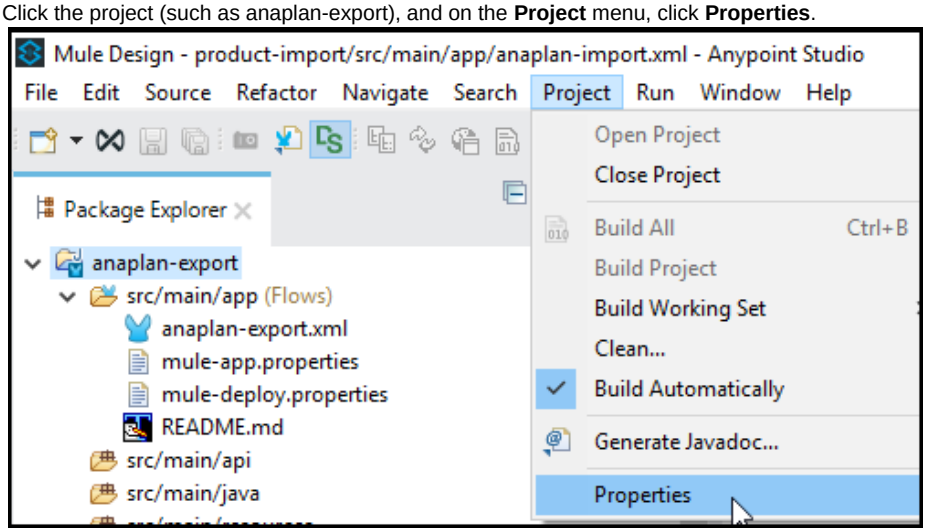
   and click **Next**.

4. In the **Mule Import** dialog, navigate to the project root of one of the demo projects, such as *anaplan-export*, make sure that **Copy project into workspace** is selected.

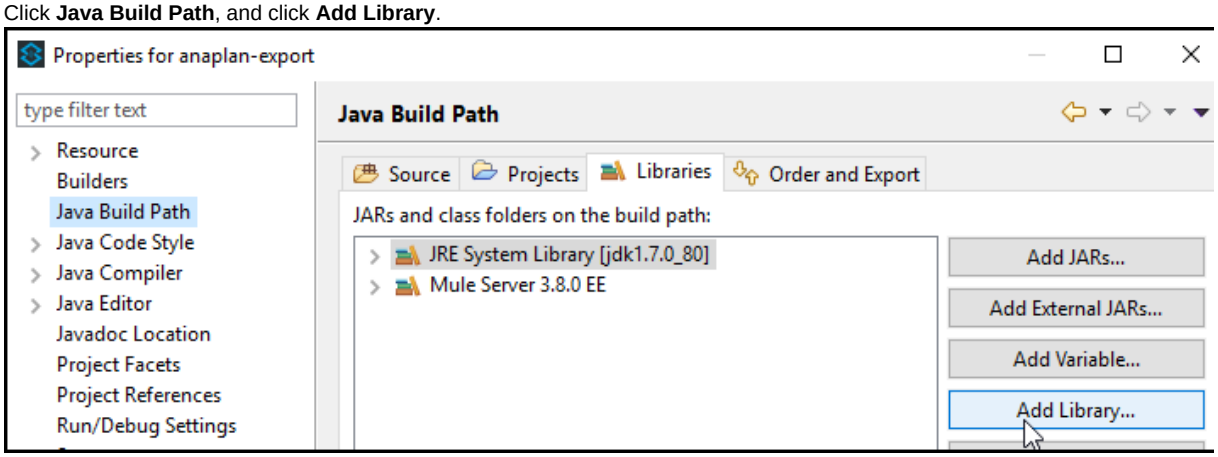


and click **Finish**.

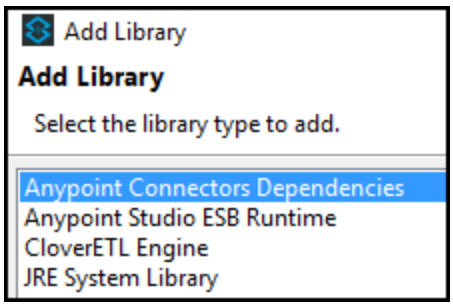
5. Configure the Dependencies for the project.
   a. Click the project (such as anaplan-export), and on the **Project** menu, click **Properties**.



   b. Click **Java Build Path**, and click **Add Library**.

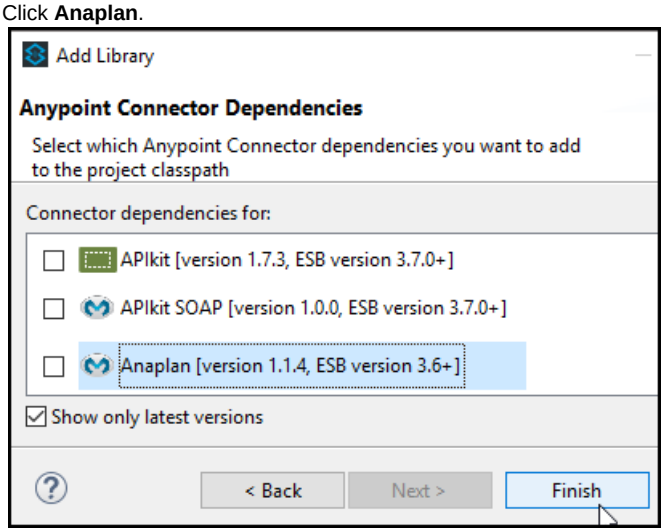


   c. In the **Add Library** dialog, click **Anypoint Connectors Dependencies**.



and click **Next**.

d. Click **Anaplan**.

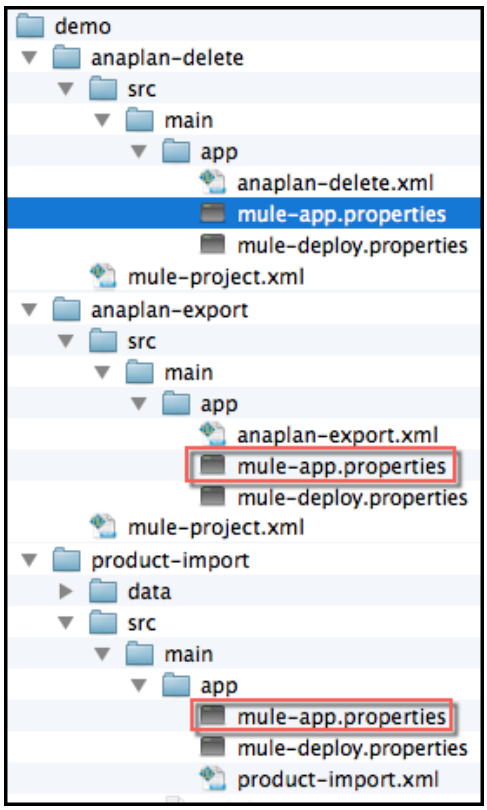


and click **Finished**.

6. (Optional) If you want, install another demo project by repeating the steps.

Variables for Authentication and Configuration

1. In your browser, navigate to https://github.com/anaplaninc/anaplan-mulesoft and download the zip.
2. Extract the zip file, and notice that it contains a subdirectory named *demo* that contains the demos for delete, export, and import.



3. In Anypoint Studio, click **File** > **Open**, and navigate to the **mule-app.properties** file for each of the demos:
   -- demo/**anaplan-delete**/src/main/app/mule-app.properties/mule-app.properties
   -- demo/**anaplan-export**/src/main/app/mule-app.properties/mule-app.properties
   -- demo/**anaplan-import**/src/main/app/mule-app.properties/mule-app.properties

4. Provide values for the variables in the mule-app.properties file you want to configure:

   - anaplan.user=joe.doe@company.com for example
   - anaplan.password=your-password
   - anaplan.certificatePath=/path/to/certificate
   - anaplan.apiURL=https://api.anaplan.com
   - anaplan.workspaceId=identifier-for-your-workspace
   - anaplan.modelId=identifier-for-your-model
   - anaplan.importId=identifier-for-your-import-action

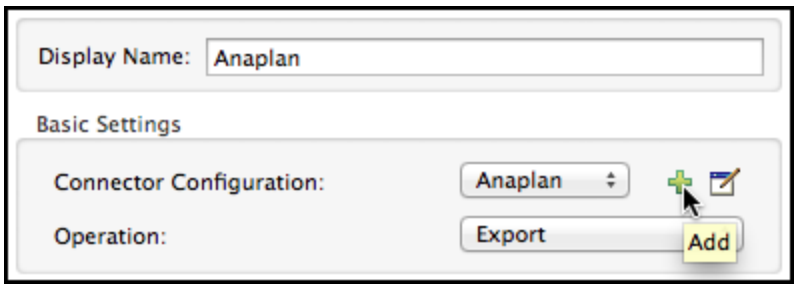
   and click **File** > **Save**.

You are now ready for Configuring Authentication - Basic or Certificate.

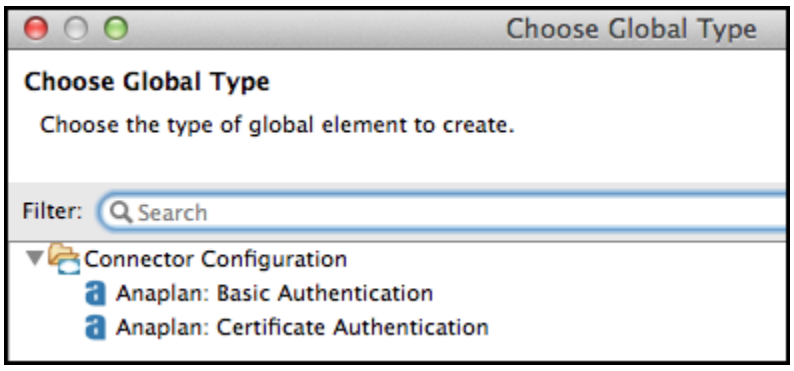
Configuring Authentication - Basic or Certificate

To set up Authentication for an Export, Import, Execution Action (for a Delete action), or a Process, you perform the following steps.

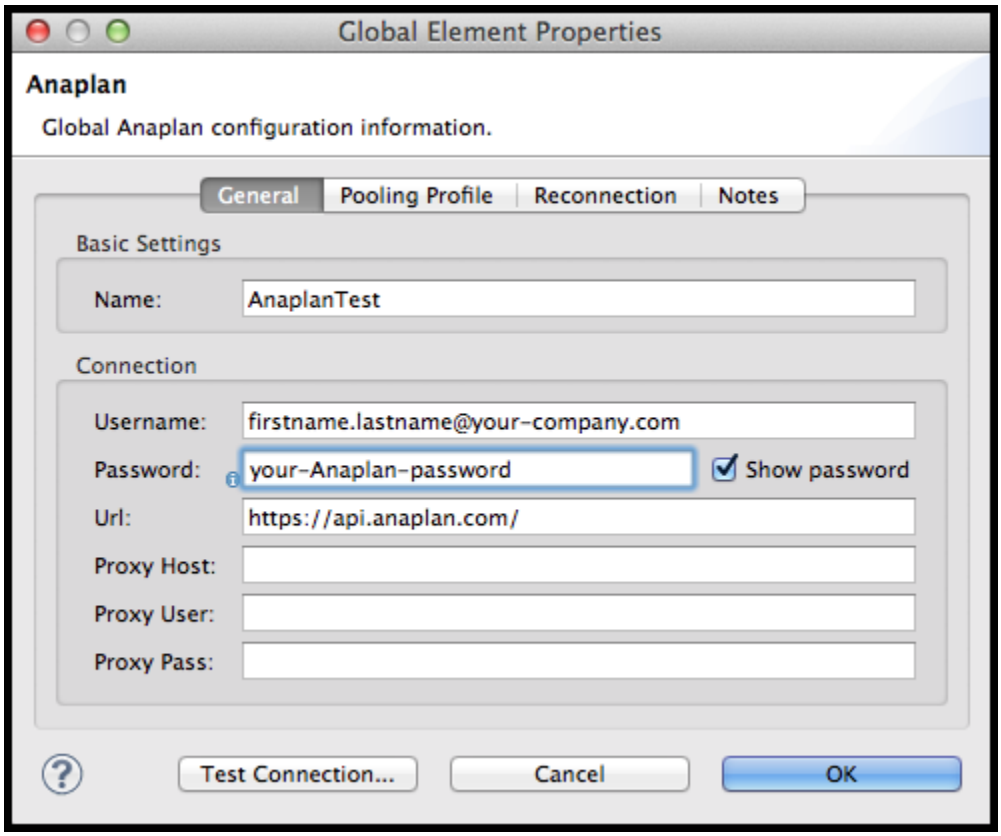
1. Click the
   
   button.



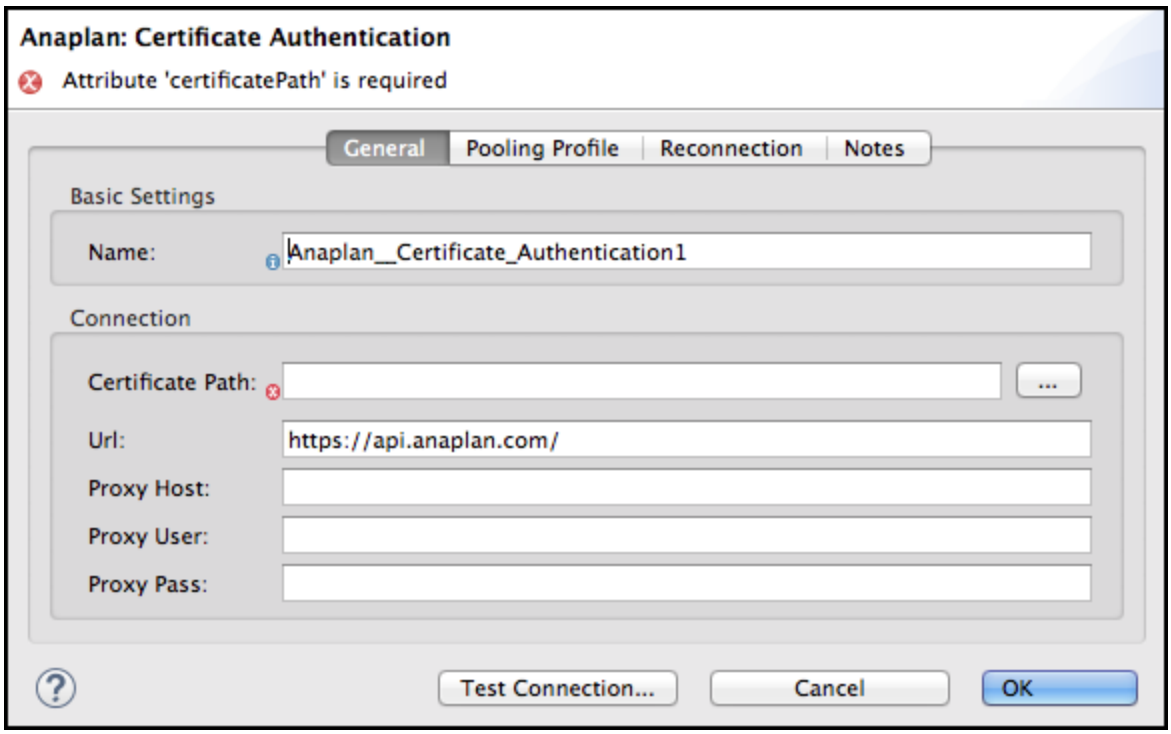
2. In the **Choose Global Type** dialog, click either **Basic Authentication** (username, password) or **Certificate Authentication**.



If you clicked **Basic Authentication**, populate the **Username** and **Password** fields, click **Test Connection** to verify that the credentials work, then click **OK**.

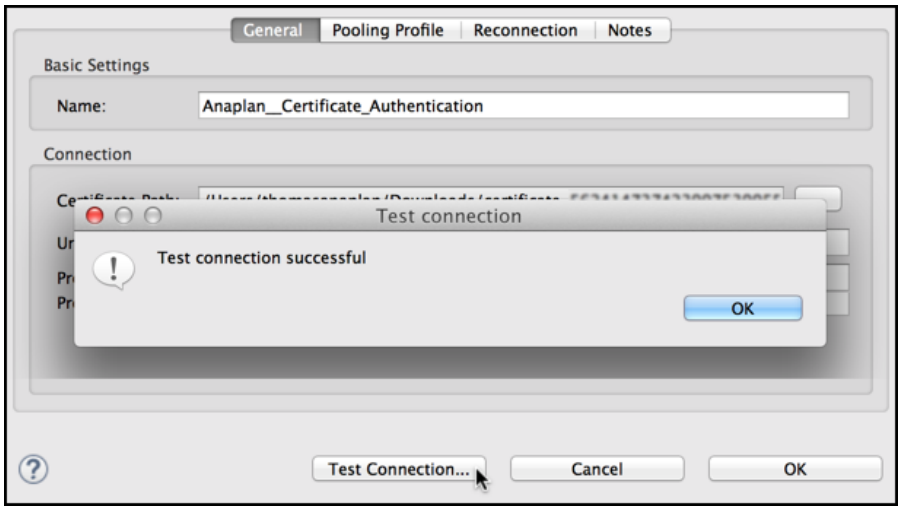


If you clicked **Certificate Authentication**, in the **Certificate Path** field, click the "**...**" button to navigate to the certificate, then click **Test Connection** to verify that the credentials work, then click **OK**.



Testing the Connection to the Anaplan API Server

The variables for Authentication allow the flow to connect to the Anaplan API Server. To test this, from Anypoint Studio, in the Demo flow, double-click the Anaplan connector, then edit the configuration. In the Global Element Properties dialog, click Test Connection and verify that "Test connection successful" displays.



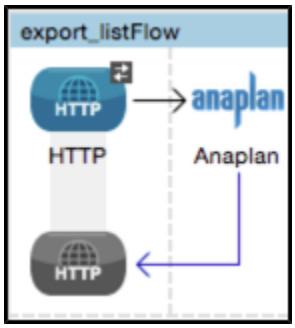
Export

You can run the Demo flow, or create your own Flow that exports a List, Module, or a set of Users, from Anaplan into another data-source, such as a CSV file or Salesforce.com.

Let's start with a simple example.

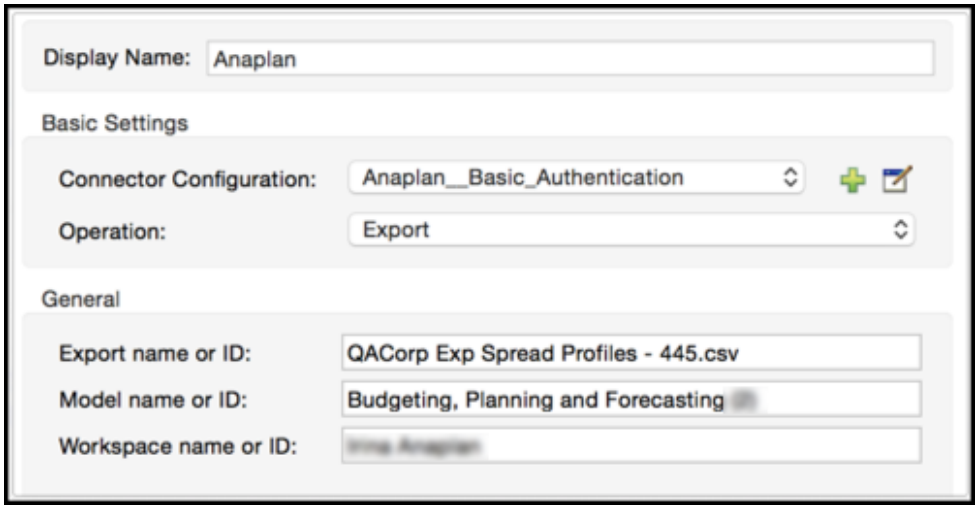
1. In Anypoint Studio, on the **File** menu, click **New > Mule Project**.
2. Enter the project name and check "Use Maven" if you want to Apache Maven to build this flow project. Click **Finish**.

3. In the **Message Flow** tab, build your flow by dropping Connectors into the Anypoint Studio Flow area as shown below:



In this example, we configured the HTTP connector to listen on localhost:8081 to initiate the Anaplan export. The output from the connector is piped back to the HTTP connector to build a HTTP response so that we can view the results.

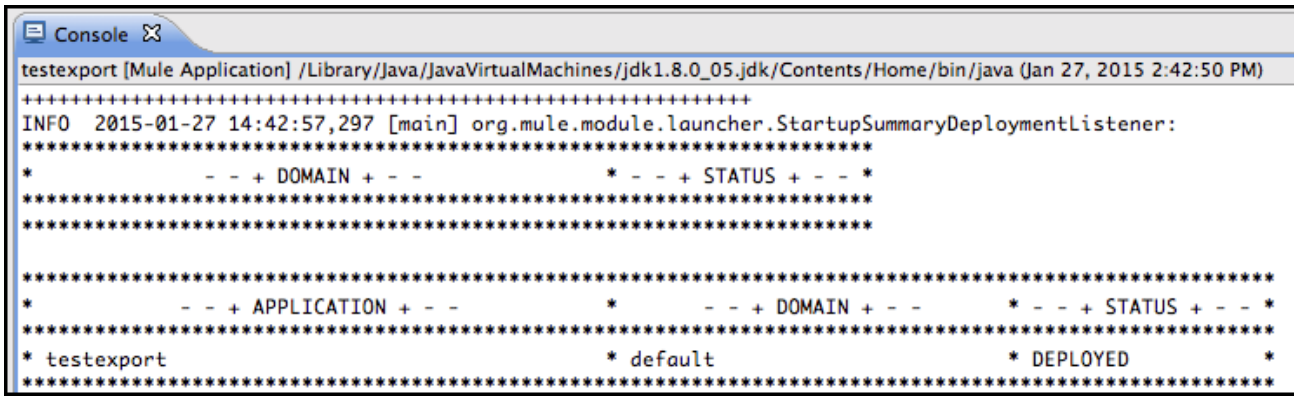
4. To configure the Anaplan connector, double-click the **Anaplan** connector icon on the flow, which will bring up a configuration panel:



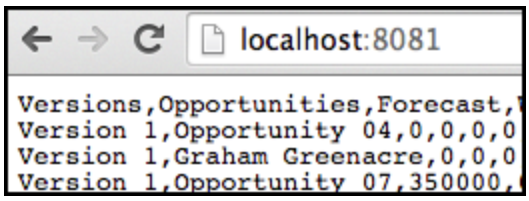
5. Set up the Anaplan authentication configuration, by clicking the "+" button next to the "Connector Configuration" field.

Note: For details on setting up a Username/Password based authentication or a Certificate based authentication, see Configuring Authentication - Basic or Certificate.

6. Save your Flow (Command-s on Mac, or Ctrl + s on Windows).
7. Make sure your Flow tab is active.
8. On the **Run** menu, click **Run As > Mule Application**.
9. Verify that the console indicates the Flow is deployed.



10. Execute the Flow by opening a browser to http://localhost:8081.
11. Verify that the output of the Export displays on the HTML page:



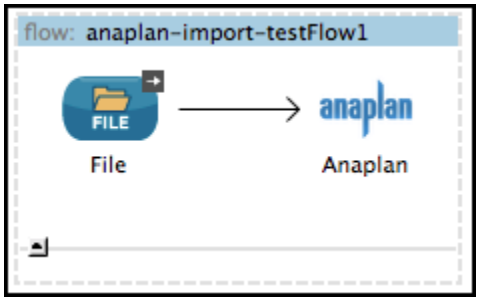
12. You are now ready to build a flow that exports to a file, if that is your goal.

Import

You can run the Demo flow, or create your own Flow that imports from another data-source, such as a .csv file or Workday, into Anaplan.

Let's start with a simple example.

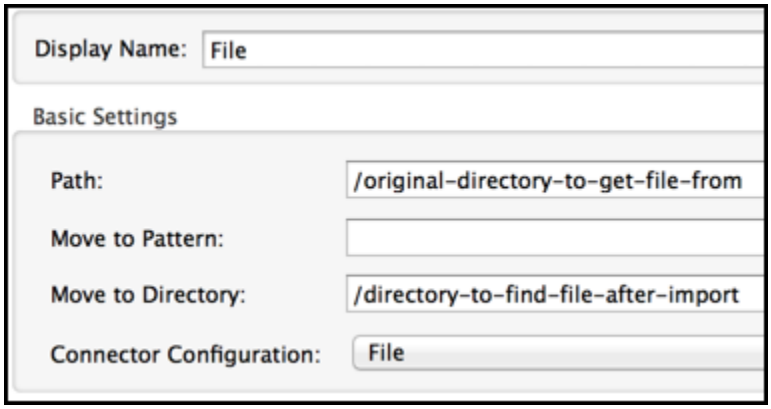
1. In Anypoint Studio, on the **File** menu, click **New > Mule Project**, and proceed though the dialogs.
2. On the Anypoint Studio **Message Flow** tab, build your flow by dropping Connectors into the Anypoint Studio Flow area.
   This example imports a .csv file from a directory you specify, brings the data into a List in Anaplan, and moves the .csv file to another directory that you specify.



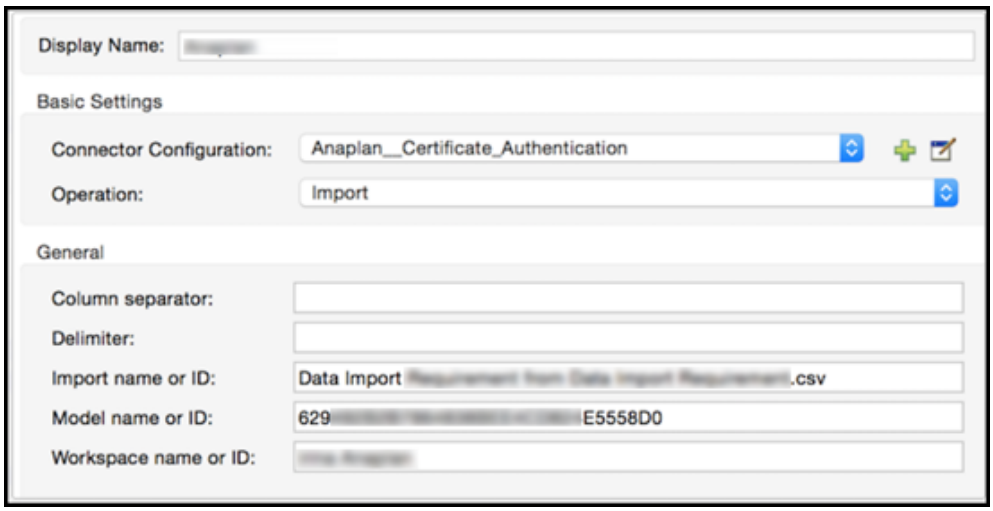
3. Configure the **File** connector with the following:
   a. **Path** to the directory that holds the .csv file.

      Important!: Make sure the directory contains exactly one (1) import file and no other files because the Flow will attempt to operate on all files in this original directory.

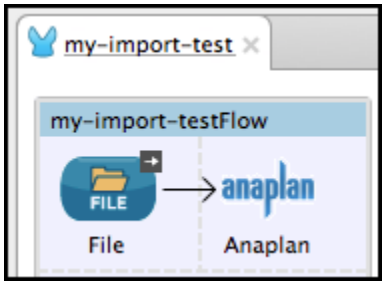
      Note to Macintosh users: To make sure the Path directory contains exactly one (1) import file, use the command-line Terminal to navigate to the directory, then type the **ls -a** command to see all files, including hidden files. If the Path directory contains a .DS_Store file, remove it by typing **rm .DS_Store**. (Terminal is available from **Applications** > **Utilities** > **Terminal**. Do not use the Finder because the Finder adds a "hidden" file named **.DS_Store** to any folder it modifies.)
   b. **Move to Directory** that receives the file after the import completes. This empties the original Path directory.



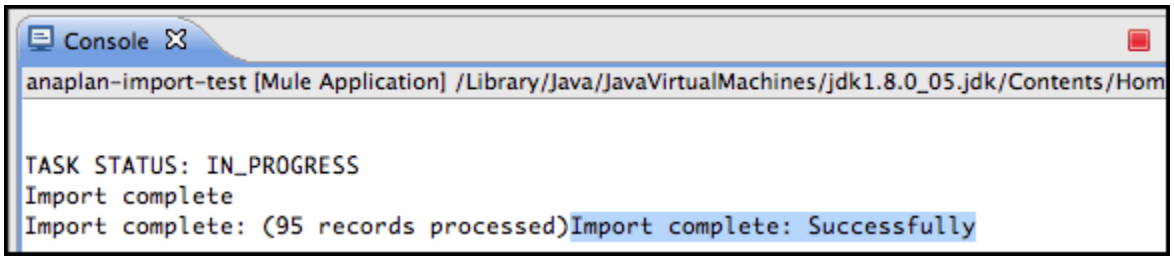
4. Set the Anaplan Authentication. See Configuring Authentication - Basic or Certificate.
5. Configure the **Anaplan** connector for the Import **Operation**, and specify the **Import name or ID**, the **Model name or ID**, and the **Workspace name or ID**.



6. Select your Flow, then on the **Run** menu, click **Run As** > **Mule Application**.

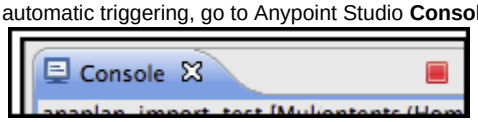


The **Console** indicates the result:



7. To verify the Import, look at the model inside Anaplan. For example, if you imported into a List, that List now shows the imported data.

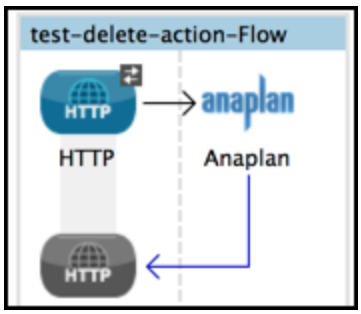
Note: By default, the Flow automatically runs again each time a file appears in the original **Path** directory. If you want to prevent this automatic triggering, go to Anypoint Studio **Console** and click the red square.



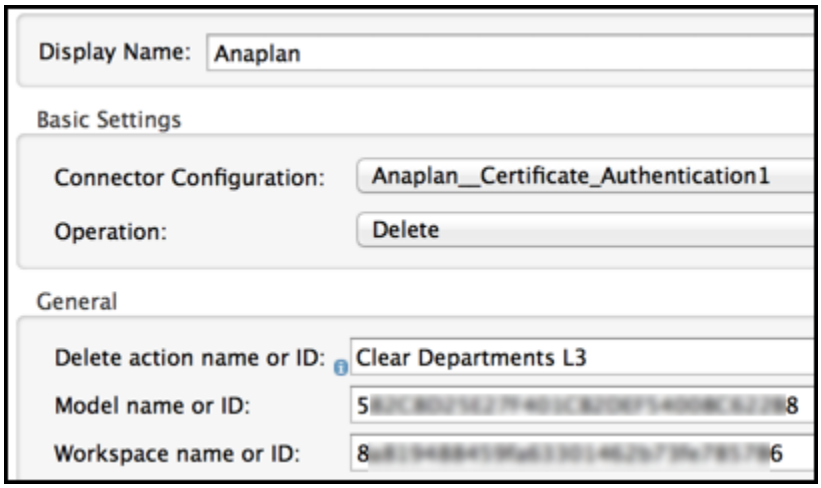
Delete

You can run the Demo flow, or create your own Flow for a Delete action.

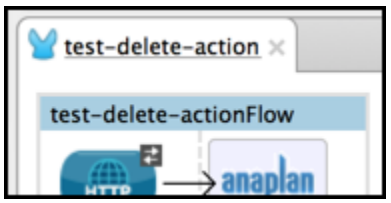
1. In Anypoint Studio, on the **File** menu, click **New > Mule Project**.
2. In the **Message Flow** tab, build your flow by dropping Connectors into the Anypoint Studio Flow area.



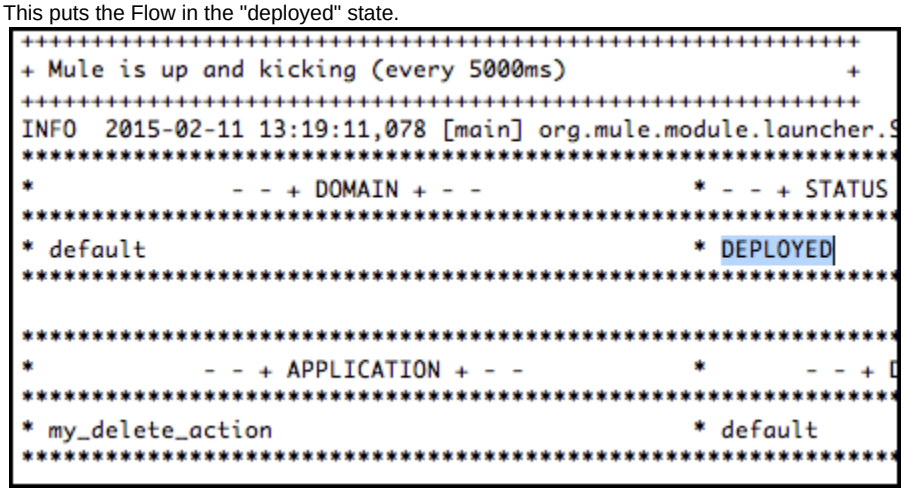
3. Double-click the **Anaplan** connector.
4. Set the Anaplan Authentication. See Configuring Authentication - Basic or Certificate.
5. For **Operation**, choose **Delete**, then supply the name or ID of the action, model, and workspace.



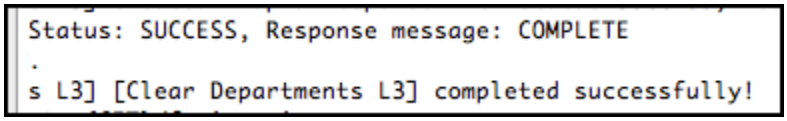
6. Save your Flow.
7. Select your Flow, then on the **Run** menu, click **Run As** > **Mule Application**.



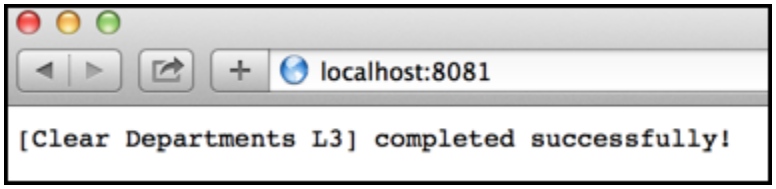
This puts the Flow in the "deployed" state.



8. To run the Flow, refresh a browser that is set to http://localhost:8081/
9. Watch the Flow run in the Anypoint Studio Console.



10. Refresh your browser that is still pointing at http://localhost:8081 to see the outcome message.



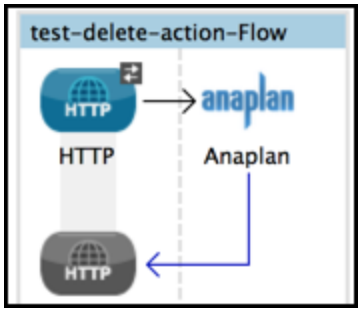
Process

A Process is an ordered set of multiple actions in a single container.

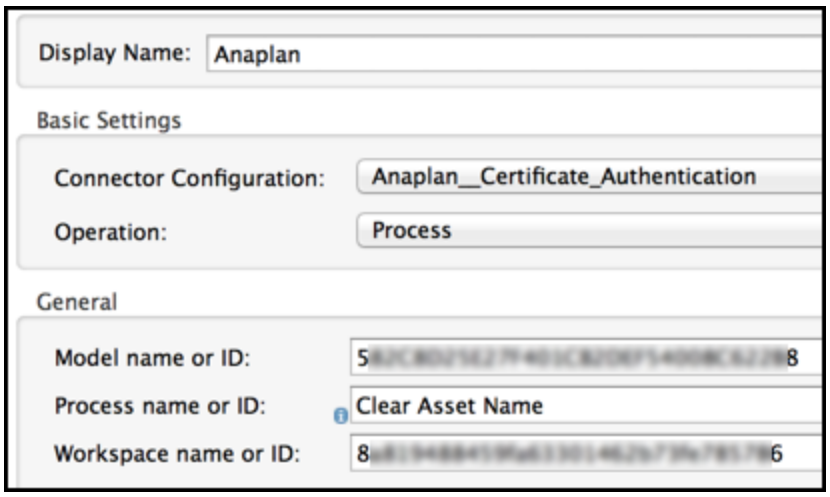
Important! The set can contain **model-to-model Import and/or Delete actions**. If you want a process for multiple Import actions that are not model-to-model, or for multiple export actions, use Anaplan Connect.

What follows is a simple example that contains multiple Delete actions.

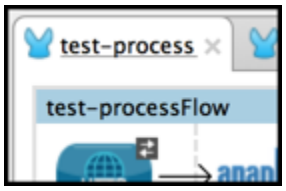
1. In Anypoint Studio, on the **File** menu, click **New > Mule Project**.
2. In the **Message Flow** tab, build your flow by dropping Connectors into the Anypoint Studio Flow area.



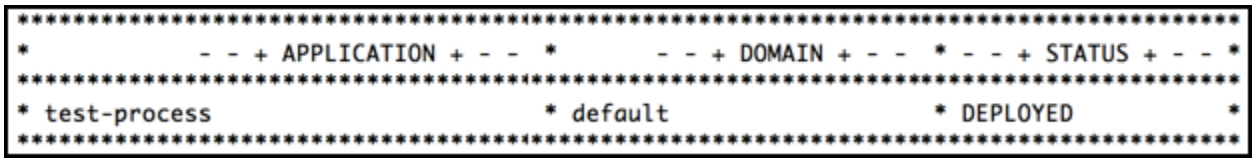
3. Double-click the **Anaplan** connector.
   Set the Anaplan Authentication. In general, we recommend using Certificate Authentication because it is more secure than Basic Authentication. See Configuring Authentication - Basic or Certificate.
4. For **Operation**, choose **Process**, then supply the name or ID of the action, model, and workspace.



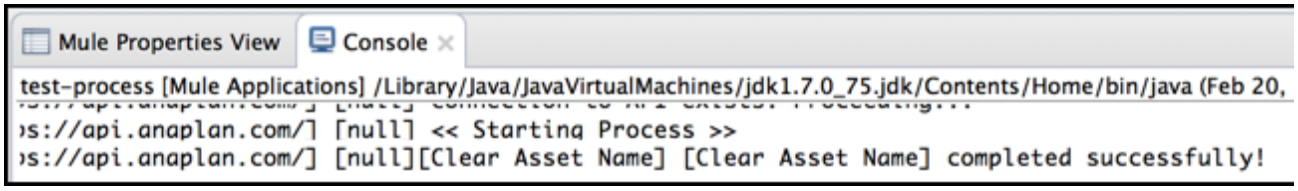
5. Save your Flow.
6. Select your Flow then on the **Run** menu, click **Run As** > **Mule Application**.



This puts the Flow in the "deployed" state.



7. To run the Flow, refresh a browser that is set to http://localhost:8081/
8. Watch the Flow run in the Anypoint Studio Console, which displays the name of the Process within Anaplan.



9. Refresh your browser that is still pointing at http://localhost:8081 to see the outcome message, which displays the name of the Process within Anaplan.